Docket No: DISALVO
Appl. No: 10/726,100

AMENDMENTS TO THE SPECIFICATION

--[0053] The silver alloy containing germanium for use in the manufacturing of medical surgical and microsurgical instruments contains from 0.01% to 20% by weight of germanium and must contain germanium in the range from at least 0.9% to 6% by weight, more specifically from 1.1% up to 5% by weight. The said silver alloy materials according to the present invention comprise at least one of the said metals and elements in addition to germanium and at least one non-hydrogenic and optionally shallow hydrogenic acceptor dopant[.] between 0% to 25% by weight relative to the germanium. The said acceptor dopants should be present in the silver alloy containing germanium in a weight ratio, which should be no higher than 15% and no lower than 5% relative to the germanium content. According to the present invention, by melting the alloy elements, quantum dot semiconductor microcrystals ranging in dimensions between 1000 angstrom and 10 angstrom, are embedded in a metal base or alloy matrix. Electron micrographs (x 18,000) have demonstrated that considerable nanometer-sized germanium microcrystal clusters are effectively formed. The minute size germanium microcrystals result in new quantum phenomena that yield some extraordinary bonuses. Hence, these minute, semiconducting microcrystal quantum dots are gateways to an enormous array of possible applications and new technologies in medical, surgical and microsurgical fields. These novel alloys represent a system with challenging new physical properties. The semiconductor is germanium and the acceptors used can be hydrogenic and/or non-hydrogenic acceptor dopants. The latter have much larger hole-binding energies than hydrogenic dopants which result in the strong reduction of the internal absorption of the generated far infrared radiation.--